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CONTRIBUTIONS TOWARD A KNOWLEDGE OF THE  
INSECT FAUNA OF LOWER CALIFORNIA\*

No. 3

COLEOPTERA: BUPRESTIDAE

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THIS PAPER, while dealing primarily with the material collected in Lower California during the summer of 1938 by Michelbacher and Ross, in order to be more useful, has been amplified to the extent of mentioning all the species of Buprestidae which are known to have been collected in that region. The various expeditions which have furnished this material, have been dealt with in the introductory paper of this series. The specimens mentioned in this paper will merely refer to the source of information as given in the bibliography, by number.

According to the literature, about thirty-seven species of Buprestidae have been recorded as collected in Lower California. The number represented in collections including the material recently added by Michelbacher and Ross, will, however, greatly increase the number as well as furnish much new data concerning their range. A study of the Buprestidae of this peninsula shows that the fauna has relationships in several directions and has therefore not been derived from a common center. The species to be found just south of San

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Diego near the Pacific Ocean as at Ensenada and San Vicente are similar to those of southwestern California and different from those to be found elsewhere in the peninsula. Those which range along the dry eastern part of the region, or dwell on the islands in the Gulf of California, or in the dry wastes extending from the center of the country to close to the Cape Region, belong to the true Sonoran fauna, and are thus more or less closely related to those living in western Sonora, southwestern Arizona and southeastern California. This stock is of course the most recent to enter the country for much of the territory that it occupies was submerged in comparatively recent geological times. Those species from the Cape Region proper, a region where there are summer rains and which is much older geologically show many elements of the Neotropical fauna. The fauna is the most isolated and the most distinct in Lower California, and though it has contributed many species to the adjacent regions, still retains many within its own confines. Among the Lower California species are a number which, though restricted to the territory, yet are so similar to other and more widely distributed species in adjacent regions that one is forced to the conclusion that not only have the former been derived from the latter but that they have been for long periods isolated from the parent stock. Thus a certain portion of Lower California, the Cape Region in particular, has served as a center of origin for such recent forms as well as a center of dispersal for other and older forms which it no doubt received at a very early period from lands to the south. Species which are restricted to Lower California yet have their closest relatives in nearby territories are as follows: *Acmaeodera stigmata* Horn, allied to *A. bivulnera* Horn of Arizona; *Chrysobothris thoracicus* Schffr., a close relative of *C. edwardsii* Horn of the desert southwest; and *Chrysobothris peninsularis* Schffr., a species no doubt derived from the allied Mexican *C. distincta* Lap. and Gory.

Illustrations of the more typical Lower California Buprestidae will be found at the end of this paper. These figures were provided by Work Projects Administration O.P. 665-08-3-29. In the bibliography, only the more essential citations will be found.

### (1) *Polycesta velasco* Laporte and Gory

*Polycesta velasco* LAP. et GORY, 1838, Hist. natur. Icon. des Col. 5; HORN, 1894, Proc. Calif. Acad. Sci., (2) 4, 388<sup>2</sup>; CHAMBERLIN, 1926, Cat. Bupr. N. Amer., 232<sup>3</sup>.

This large black buprestid, which is one of the most characteristic insects of the arid southwest, breeds in a number of the typical desert trees such as the cat's claw (*Acacia greggii*), mesquite (*Prosopis juliflora*), and Palo verde (*Cercidium torreyanum*).

Type locality: Mexico.

Recorded distribution: Arizona, southeastern California, Texas, Mexico and Lower California: El Chinche, 2000 ft.<sup>2</sup>, Santa Rosa, 2000 ft.<sup>3</sup>

New records: 15 miles west of La Paz, Lower Calif., July 5, 1938 (M. and R.).

(2) **Acmaeodera comata** LeConte

*Acmaeodera comata* LECONTE, 1859, Proc. Acad. Nat. Sci. Phila., 70<sup>1</sup>; HORN, 1878, Tr. Amer. Ent. Soc., 7, 24, 25, pl. 1, f. 39; FALL, 1899, Journ. N. Y. Ent. Soc., 7 (1), 37; CHAMB., 1926, Cat. Bupr. N. Am., 13.<sup>8</sup>

This very distinct, cylindrical species was for many years known only by the type. It is apparently restricted to the hot desert regions of the southwest and Lower California.

Type locality: near Fort Yuma, California<sup>1</sup>.

Recorded distribution: Yuma, Calif.<sup>1</sup>; Phoenix, Ariz.<sup>2</sup>

New records: southern Ariz. (Knoll); 7 miles south of El Mármol, Lower Calif., June 18, 1938 (M. and R.).

(3) **Acmaeodera flavomarginata** Gray

*Acmaeodera flavomarginata* GRAY, 1831, Griffith Anim. Kingd., 14, 358, t. 31, f. 2; CHEVR., 1834, Col. Mex., fasc. 3; C. O. WATER., 1889, Biol. Centr.-Amer., Col. 8(1), 21-22; LAP. et GORY, 1838, Mon. 2, t. 1, f. 2; HORN, 1878, Tr. Amer. Ent. Soc., 7, 8, p. 1, f. 4<sup>2</sup>; 1894, Proc. Cal. Acad. Sci. 4(2), 328<sup>4</sup>; FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 8<sup>3</sup>.

This is one of the most well marked and characteristic species of Mexico, ranging north across the line into the border states from Texas to southeastern California and Lower California.

Type locality: probably Mexico.

Recorded distribution: Mexico, Guanajuato (Duges, Salle), Almolonga, Córdova (Hoge), Oaxaca (Salle); Guatemala, San Geronimo (Champion); Guadaloupe?, Chile?; southwestern Texas<sup>2-3</sup>; southwestern California<sup>3</sup>; and Lower California, Cape San Lucas<sup>3</sup>, San José del Cabo<sup>1</sup>.

New records: Mexico, Ocotlan in Jalisco (C.A.S.), Sonora (C.A.S.) Chilmalma (C.A.S.); Arizona, Chiricahua Mts. in Cochise Co. (C.A.S.), and Santa Rosa in Lower California (C.A.S.).

(4) **Acmaeodera scapularis** Horn

Plate 6, fig. 8

*Acmaeodera scapularis* HORN, 1894, Proc. Calif. Acad. Sci., 4(2), 396, p. 8, f. 6; FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 7-8.

This species is a moderately large, wedge shaped and well marked species which seems to be restricted to the Cape Region of Lower California. It varies somewhat in size and slightly in markings.

*Holotype*, No. 23, Mus. C.A.S., Ent. from **Sierra El Chinche, Lower California.**

Recorded distribution: Lower California, Sierra El Chinche.

New records: Lower California, Santa Rosa, San José del Cabo (Beyer, C.A.S.).

(5) *Acmaeodera gibbula* LeConte

*Acmaeodera gibbula* LECONTE, 1858; Proc. Acad. Nat. Sci. Phil., 69<sup>1</sup>; HORN, 1878, Tr. Amer. Ent. Soc., VII, 8, 24<sup>2</sup>, pl. 1, f. 38, FALL, 1899, Journ. N. F. Ent. Soc., 7(1), 35-36<sup>3</sup>; CHAMB., 1926, Cat. Bufr. N. Am., 21<sup>4</sup>.

*Acmaeodera delumbis* HORN, 1894, Proc. Cal. Acad. Sci., 4(2), 378.

This moderately large and robust species is one of the dominant species of *Acmaeodera* in the Sonoran region of Mexico and our southwest and is generally to be found during the early summer about the various species of mesquite (*Prosopis*) in which its larvae live. It is quite variable as to color pattern, the yellow blotches on the disk of the elytra in the more typical form being numerous and irregular, while in the variety *delumbis*, the blotches are larger and somewhat regularly arranged in a row on each elytron. In a third variety, found about Yuma, Arizona, the discal markings are more broadly transverse giving the beetle a somewhat balteate pattern.

Type locality: between San Diego and El Paso (coll. Dr. Webb); and for *delumbis* Horn, Arizona.

Recorded distribution: Texas, Chisos<sup>4</sup>, Uvalde<sup>4</sup>, New Mexico near Rincon (Cockerell<sup>3</sup>); Arizona<sup>2</sup>, Santa Rita Mts.<sup>4</sup>, Rincon Mts.<sup>4</sup>, Florence<sup>4</sup>, Yuma<sup>4</sup>, Palmerlee<sup>4</sup>, Phoenix<sup>4</sup>, Hot Springs<sup>4</sup>, Camobai Mts.<sup>4</sup>, St. Catalina Mts.<sup>4</sup>, Tucson<sup>4</sup>; California, desert regions of southern California<sup>3</sup>, San Diego<sup>4</sup>, Pasadena<sup>4</sup>, Palm Springs<sup>4</sup>, Fort Yuma<sup>4</sup>; Lower California, Cape Region<sup>3</sup>, Santa Rosa.

New records: Mexico, Sonora and Chilmalma (C.A.S.); Nevada, Glendale; California, Banning, Indio (C.A.S.); Lower California, San José del Cabo (C.A.S.), Tiburon Is., Gulf of Cal. (C.A.S.), and 7 miles S. El Mármol (M & R.). For *delumbis*: Arizona, Tucson (C.A.S.), Tiburon Is. Gulf of Cal. (C.A.S.) and Sonora, Mexico (C.A.S.).

(6) *Acmaeodera clausa* Horn

Plate 6, fig. 10

*Acmaeodera clausa* HORN, 1894, Proc. Cal. Acad. Sc., 4(2), 374, pl. 7, f. 3; FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 11.

This well marked and pretty species is restricted to the Cape Region of Lower California.

Type locality: Three specimens in the collection of the Calif. Acad. of Sciences were designated as types by Horn: Type No. 25, San José del Cabo, Type No. 26, Corral de Piedra, and Type No. 27, San José del Cabo. Type No. 26 from Corral de Piedra, I now designate as the Lectotype.

Recorded distribution: San José del Cabo, Coral de Piedra, Sierra el Taste, and Santa Rosa, all in the Cape Region of Lower California.

New records: Lower California, San Antonio, Distr. Sur. July 12, 1919 (Ferris, C.A.S.) and Miraflores, July 10, 1938 (M. and R.).



(7) *Acmaeodera fenyesi* Fall

*Acmaeodera fenyesi* FALL, 1899<sup>1</sup>, Journ. N. Y. Ent. Soc., 7(1), 12-13<sup>1</sup>; CHAMB., 1926, Cat. Bupr. N. Am., 19<sup>2</sup>.

This well known, hairy, black species is at times common throughout southern California west of the San Bernardino Mts. It has a preference for the flowers of the Yerba Santa (*Eriodictyon*), but also frequents many other flowers.

Type locality: S. California<sup>1</sup>, probably the Sierra Madre Range near Pasadena.

Recorded distribution: California<sup>1</sup>, Colorado<sup>2</sup> and Utah<sup>2</sup>.

New records: Lower California, San Vicente, May 8, 1938, and Ensenada, May 3, 1938, three specimens collected by W. E. Simonds (Cazier coll.).

(8) *Acmaeodera angelica* Fall

*Acmaeodera angelica* FALL, 1899<sup>1</sup>, Journ. N. Y. Ent. Soc., 7(1), 16<sup>1</sup>, CHAMB., 1926, Cat. Buph. N. Amer.<sup>2</sup>, 11.

*Acmaeodera nexa* FALL<sup>3</sup>, 1922, Bull. Brookl. Ent. Soc., 17, 89.

A very variable, common and widely spread species throughout middle and southern California, especially abundant in the San Bernardino Mts. It breeds in numerous trees and shrubs, being especially partial to *Ceanothus*. *A. nexa* is generally smaller, more elongate and cylindrical, a variety often found with the more typical form or in pure colonies as in the Yosemite Valley and certain places in the San Bernardino Mts.

Type locality: Los Angeles Co., Calif.; for *nexa*<sup>3</sup>, San Bernardino Co., California.

Recorded distribution: numerous places in middle and southern California.

New records: Lower California, San Vicente, one specimen collected by W. S. Simonds (Cazier coll.).

(9) *Acmaeodera flavosticta* Horn

Plate 6, fig. 6

*Acmaeodera flavosticta* HORN, 1878, Tr. Am. Ent. Soc.<sup>1</sup>, 7, 8, 15, pl. 1, f. 16; 1894, Proc. Cal. Acad. Sci., (2) 4, 328<sup>2</sup>; FALL, 1899, Journ. N. Y. Ent. Soc., 8(1), 20<sup>3</sup>; CHAMB., 1926, Cat. Bupr. N. Am., 20<sup>4</sup>.

A moderately common and somewhat variable species to be found in southern California<sup>1, 3, 4</sup>, generally east of the San Bernardino Mts., and which extends south into the adjacent parts of Mexico and Lower California<sup>2, 3</sup>.

Type locality: Lower California<sup>1</sup> (Xantus coll.).

Recorded distribution: southern California, Los Angeles Co.<sup>2</sup> (probably the Mojave Desert), Palm Springs, San Diego Co.; Mexico, Chilmalma<sup>3</sup>, Durango<sup>3</sup>, Hidalgo<sup>3</sup>; Lower California, Cape San Lucas, Magdalena Islands<sup>3</sup>, San José del Cabo<sup>3</sup>, Santa Rosa<sup>3</sup>.

New records: California, Owens Valley (C.A.S.); Lower California, Porto Balandra, Carmel Island (C.A.S.).

(10) **Acmaeodera labyrinthica** Fall

*Acmaeodera labyrinthica* FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 21<sup>1</sup>; CHAMB., 1926, Cat. Bupr. N. Am., 23<sup>2</sup>.

A widely distributed and at times common species throughout southern California<sup>1</sup> and the adjacent parts of the Southwest generally. It frequents flowers but also rests on dry grass and dead twigs where its sombre coloration protects it.

Type locality: Tuolumne Co.<sup>1</sup>, California.

Recorded distribution: Arizona<sup>2</sup>, California<sup>1, 2</sup>, Utah<sup>1, 2</sup>, and Nevada<sup>1, 2</sup>.

New records: Lower California, San Vicente, May 8, 1938, two specimens collected by W. E. Simonds (Cazier coll.).

(11) **Acmaeodera acuta** LeConte

*Acmaeodera acuta* LECONTE, 1859, Tr. Am. Phil. Soc., 11, 224; HORN, 1878, Tr. Am. Ent. Soc., 7, 8, 13, pl. 1, f. 14; FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 20<sup>2</sup>; CHAMB., 1926, Cat. Bupr. N. Am.<sup>3</sup>, 10.

This is one of the commonest, most variable and widely distributed species of California, west of the Sierra Nevada Mts. It is generally to be found in flowers, particularly certain Compositae.

Type locality: Fort Tejon, California (Xantus coll.).

Recorded distribution: most of California<sup>1, 2</sup>, Arizona<sup>2</sup>, Utah<sup>2</sup>, Washington<sup>2</sup>, and Lower California. Several of the localities given are questionable, probably due to misidentification.

New records: Lower California, San Vicente, May 8, 1938, three specimens collected by W. E. Simonds (Cazier coll.).

(12) **Acmaeodera subbalteata** LeConte

*Acmaeodera subbalteata* LECONTE, 1863, Smith, Misc. Coll., 6, no. 167<sup>1</sup>, 82<sup>1</sup>; HORN, 1878, Tr. Am. Ent. Soc., 7, 8, 20, pl. 1, f. 31; 1894, Proc. Cal. Acad. Sci., (2)4, 328; FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 30.

This is a small and apparently very rare species, known definitely only by the type. Fall states that he has seen two specimens from New Mexico which appear to be the same but these need to be compared with the type.

Type locality: Lower California, Cape San Lucas.

(13) **Acmaeodera opinabilis** Fall

Plate 6, fig. 5

*Acmaeodera opinabilis* FALL, 1899, Journ. N. Y. Ent. Soc., 7(1), 30, 31; CHAMB., 1926, Cat. Bupr. N. Am. 28<sup>2</sup>.

This is a small species, apparently limited to the Cape Region of Lower California. Most of the specimens in museums were collected by Gustav Beyer and distributed by Charles Fuchs. In the series which Fall and others

received were two closely related but, I think, quite different species. The larger, broader species, with prothorax ornamented on the sides with a yellow patch and the elytral apices somewhat blunt, is the true *opinabilis*. It is apparently scarce, for but few specimens are in collections. The smaller species, now without a name, I will describe following this..

Type locality: Lower California, San José del Cabo.

Recorded distribution: Lower California, San José del Cabo<sup>1, 2</sup>, Santa Rosa<sup>2</sup>.

(14) ***Acmaeodera* lucana** Van Dyke, new species

Plate 6, fig. 1

Small, narrow, cuneate; head, pronotum and under surface aeneous, elytra dull black, bluish black or very feebly bronzed, generally somewhat aeneous along suture, and ornamented with three irregular, yellow maculations, the first subbasal, transverse, partly encircling humeri anteriorly and extending from third interval to submarginal interval, the second at middle, obliquely transverse and likewise extending from third to submarginal interval, and the third, irregular, lunate, and longitudinal, running from the posterior third towards apex, this last often connected laterally with the middle band. *Head* coarsely, moderately closely punctured, contiguously so posteriorly, feebly, longitudinally impressed between the eyes, and with short, arcuate setae arising from the punctures; the clypeus broadly triangularly emarginate in front; antennae short, reaching two thirds back along the prothorax, with segments 2-4 narrow and but little broader than long, the fourth slightly the broadest while segments 5-10 are broad and somewhat triangular. *Prothorax* somewhat more than twice as wide as long, apex bisinuate, sides feebly arcuately wider to posterior third then narrowed to base, disk convex with transverse impression back of apex, a feeble, median longitudinal impression, foveate at base, and lunate impression laterally, coarsely, deeply, closely punctured, cribrately so at sides, and in fresh specimens with short setae similar to those of head arising from the punctures. *Elytra* over twice as wide as long, as wide basally as base of prothorax, the sides from humeri almost straight and gradually converging until near posterior third where they become feebly arcuated and converge to apex; the disk more or less flattened, striae with coarse, deep, closely placed punctures, intervals equally elevated except sutural which is at times somewhat more elevated and subcarinate, as broad or feebly broader than striae, more or less flattened above and generally rather definitely shallowly and regularly punctured, a very small, semierect seta, often removed in old specimens, arising from each puncture. Beneath with front margin of prosternum practically transverse, the general surface alutaceous and rather coarsely, somewhat closely punctured, the punctures of abdomen separated by more than their own breadth and each with a short, white, much inclined seta arising from it; last ventral segment with a very vague submarginal carina. Length 6 mm. and breadth 2.25 mm. (in type), in the usual smaller specimens, length 4.5 mm. and breadth 1.5 mm.

*Holotype*, (No. 4833, Mus. C.A.S. Ent.) from **San José del Cabo, Lower California**, Van Dyke Collection, probably collected by Gustav Beyer and distributed by Charles Fuchs. Paratypes: nineteen specimens, all from Lower California and all but one supposedly collected by Gustav Beyer in 1901, and now distributed as follows: two from San José del Cabo and five from Santa Rosa, in the Blaisdell, Van Dyke, and Fenyès collections of the California Academy of Sciences; four from San José del Cabo and one from Santa Rosa in the Wickham collection of the U. S. National Museum; two specimens from Santa Rosa and three marked "Lower Calif." from the C. W. Long collection now belonging to M. Cazier, and a single specimen returned to H. C. Fall. The nineteenth specimen was collected at Triunfo, Lower California, July 13, 1938, by Michelbacher and Ross. This last has the elytra more bronzed than usual, and the markings of the left elytron somewhat different from those on the right in that the anterior yellow patch has a spur extending along the fifth interval almost to the median patch.

This species as stated above, has always been associated with *opinabilis*. Fall surmised that it might prove to be distinct. A critical study of the two species and an examination of longer series of one of them has convinced me that they are different though closely allied species. *Acmaeodera lucana* when compared with *opinabilis* is found to be smaller, more opaque, and with acute elytral apices whereas the latter is somewhat broader and with elytra proportionately shorter and blunt apically; always has a unicolored prothorax whereas there are lateral yellow spots in *opinabilis*; has the setae of the entire upper surface very short, one half the length of the setae in the latter species where they are as long as punctures are wide, and suberect as well; the elytra have intervals that are in general as broad or broader than striae and the sutural interval posteriorly a bit more elevated and subcarinate, whereas in *opinabilis* the intervals are narrower than striae and the sutural intervals flat like the other intervals; the punctuation beneath in *lucana* moderately coarse, the punctures on the abdomen separated by more than their own breadth and with the setae short, fine and rather closely appressed while in the other the punctuation beneath is coarse and close and the setae conspicuous and suberect.

(15) ***Acmaeodera rubescens* Schaeffer**

Plate 6, fig. 2

*Acmaeodera rubescens* SCHFFER., 1904, Journ. N. Y. Ent. Soc., 12(4), 210<sup>1</sup>; CHAMB. 1926, Cat. Bupr. N. Am., 35<sup>2</sup>.

This is a very distinctly marked little species belonging in the same group with *opinabilis* and *lucana*, but differing from both by having the apex of the elytra quite rufous. The figure given was drawn from a specimen kindly loaned by Dr. H. C. Fall who shipped his unique across the continent in order that I might have an opportunity to study the species. This specimen, the type, and the specimens in the Howard Notman collection, were all collected

by Gustav Beyer, and are probably the only known specimens of this species. It was not taken by Michelbacher and Ross.

Type locality: Lower California, Santa Rosa<sup>1</sup> (Beyer coll.).

Recorded distribution: Santa Rosa and El Taste<sup>2</sup>, Lower California.

The foregoing species *opinabilis*, *lucana* and *rubescens*, all restricted to the Cape Region of Lower California as far as we know, form a closely knit group which is more or less characterized by small size, depressed and cuneate form, coarse sculpturing, somewhat subopaque appearance and with very inconspicuous vestiture. As much as they are so characteristic of Lower California and generally rare in collections, I have had them all illustrated and give a synoptic key for their separation.

Key for *Acmaeodera opinabilis* and its close relatives.

1. Pronotum maculate, with a yellow spot at sides or near hind angles, Elytral apices blunt ..... 2  
 Pronotum unicolorous black, moderately coarsely punctured, but with punctures well separated on disk; elytra subopaque, with apices rather acute; the striae as broad or broader than intervals, the punctures large, deep and close, punctures of intervals quite evident ..... *lucana*
2. Pronotum with yellow spot near hind angles, the disk very coarsely, approximately punctured; Elytra subopaque, with anterior maculations and apex red, the striae wider than intervals, the punctures coarse, deep and close, the intervals narrow, finely rugose with small punctures: antennae with outer segments very wide. .... *rubescens*  
 Pronotum with yellow spot at sides well in front of hind angles, the disk coarsely, more or less cribrately punctured; elytra somewhat shining, with all maculations yellow, the striae hardly wider than intervals, the punctures coarse and deep but well spaced, intervals quite smooth and with very fine, sparse punctures. .... *opinabilis*

### (16) *Acmaeodera sabinæ* Knoll

*Acmaeodera sabinæ* KNOLL, 1937, Ent. News, 48, 15-16.

This is a very small, narrow species easily recognized by the white, digitate scales placed along the sides of the abdomen.

Type locality: Sabina Canyon, near Tucson, Ariz., on mesquite.

New records: Lower California, Tiburon Is., Gulf of Calif. (2 specimens coll. by E. P. Van Duzee, C.A.S.); 20 miles w. of Santa Rosalia (2 spec. M. and R.) and 14 miles S. of El Arco Mine (1 spec. M. and R.).

### (17) *Acmaeodera stigmata* Horn

Plate 6, fig. 3

*Acmaeodera stigmata* HORN, 1894, Proc. Cal. Acad. Sci. (2) 4, 370, pl. 7, f. 2<sup>1</sup>.

This species, described from the Cape Region of Lower California, is very close in its color pattern to *bivulnerea* from Arizona, but differs by not having the mammiform elevation each side of the median portion of the bisinuate prosternal margin.

Type locality: Lower California, San José del Cabo (Type No. 24 C.A.S.).

New records: Lower California, Mesquital, July 28, 1938, and Triunfo, July 13, 1938 (M. and R.).



(18) **Acmaeodera faceta** Fall

*Acmaeodera faceta* Fall, 1907, Canad. Ent., 39, 241.

A poorly defined species, very close to the preceding but more cylindrical and with prothorax black instead of aeneous. No specimens found since the type.

Type locality: Lower California, Santa Rosa (Beyer).

(19) **Acmaeodera junki** Théry

*Acmaeodera junki* Théry, 1929, Bull. Soc. Ent. Egypte, 115,

*Acmaeodera squamosa* Van Dyke (*nec. squamosa* Théry), 1919, Ent. News, 30, 186-187.

This small and peculiar species, markedly sexually dimorphic, belongs in the same group with *guttifera* Lec. (*versuta* Horn ♀) and a number of other small and equally dimorphic species which are characteristic of the more arid regions of the Southwest. A single female specimen was collected in Lower California which differs from the normal females of Arizona in that two spots on the marginal interval near the apex of the elytra are red instead of yellow.

Type locality: Arizona, Florence.

Recorded distribution: Arizona, Catalina Springs and Hot Springs, taken on *Jatropha multifida*, also reared from Palo Verde by Barber and Schwarz; Texas, (Leng Cat.).

New records: Lower California, 20 miles S. of Santa Rosalia, July 25, 1938 (M. and R.).

(20) **Acmaeodera varipilis** Van Dyke

Plate 6, fig. 7

*Acmaeodera varipilis* Van Dyke, 1934, Ent. News, 45, 62-63.

This species, somewhat longer than the preceding, belongs in the same group with it.

Type locality: Tiburon Island, Gulf of California.

Recorded localities: Texas, Finley; Arizona, Oracle, Cave Creek, Sabino Canyon on *Acacia constricta* (Hofer).

New records: Lower California, 15 miles N. of San Ignacio, June 24, 1938; 20 miles W. of San Rosalia, June 24, 1938; 14 miles S. of El Arco Mine, June 23, 1938; Mesquital, July 28, 1938; and 7 miles S. of El Mármol, June 18, 1938; fifteen specimens collected by Michelbacher and Ross.

*The guttifera group of Acmaeodera*

This group, including the two preceding species, comprises a small number of species, generally placed in the truncate series of the genus, but closely allied among themselves and distinct from other members of the *truncateae* by the marked sexual dimorphism as shown in the ventral vestiture of the sexes. The males have the entire abdomen clothed with a uniform type of vestiture, either pile or scales, while the females have the abdominal vestiture of a

double type, that of the forepart similar to that of the males of the same species, while the apical segments are clothed with a rather long, dense, gray or fulvous pile which is more or less curved forwards. There are six species described to date as far as I know, in the group, and they are confined to the Southwest, New Mexico, Arizona, southern California and Lower California. Their nearest relatives are probably the more or less cylindrical *Acmaeodera* like *cribricollis*, *wheeleri*, *vanduzeei*, and so forth, species which often have the short, scalelike setae on the elytra and the dense scaly vestiture of the abdomen, which is so characteristic of certain members of the *guttifera* group.

Key for the species of the *guttifera* group of *Acmaeodera*.

1. Upper surface clothed with hair. . . . . 2
  - Upper surface clothed with scales or scalelike setae. . . . . 3
2. Upper surface clothed with fine, sparse, suberect pile in both sexes; abdomen of males with fine and short, more or less recumbent pile, the females with similar pile on front of abdomen but with the longer, gray and forward curved pile on the apical portion of abdomen. Southern California, on oak. . . . . *guttifera* Lec. ♀ (*versuta* Horn ♂)
  - Upper surface sparsely clothed with short, more or less prostrate pile; abdomen of males rather sparsely clothed with short, recumbent, digitate scales, the females with similar vestiture on front of abdomen but with longer, gray forward curved pile as in preceding species on the apical segments of the abdomen. . . . . *pinalorum* Knoll
3. Elytral intervals studded with rows of short, white, suberect scalelike setae. . . . . 4
  - Elytra more or less clothed with recumbent scales and pile. . . . . 5
4. Prothorax considerably wider at middle; disk coarsely, more or less cribrately punctured, the vestiture pilose but passing into long, digitate scales at sides; elytra generally with two rows of yellow spots on each elytron, the striae deeply impressed, and in most cases fully as wide as intervals, intervals convex; general color a dull bronze; beneath, abdomen in males clothed with rather short, closely appressed digitate scales, in females the scales longer and more hairlike in front and the last three segments with the long forward curved pile. Lower California, Arizona. . . . . *varipilis* Van Dyke
  - Sides of prothorax evenly arcuate, less wide at middle than in preceding species, disk with coarse but not approximate punctures though cribrate at sides, the vestiture similar to above species but shorter; elytra usually with but one row of yellow spots on each elytron, with striae more finely impressed and generally narrower than intervals, the latter generally flattened above; general color a shining bronze; beneath, males rather densely clothed with closely appressed, white, digitate scales, the females similarly clothed in front but with long, fulvous, forward curved pile posteriorly. New Mexico and Arizona. . . . . *hulli* Knoll
5. Species rather short and robust, prothorax much wider than long and broadest at middle, the closely appressed short and broad scales of both elytra and under surface conspicuous, no evidence of hair, except on terminal segments of abdomen in females where the pile is long, fulvous and curved forward. Arizona and Lower California
  - junki* Thery
  - Species somewhat elongate, prothorax but little broader than long, broadest posteriorly and more finely and densely punctured; both upper and under surface clothed with scales and the disk of elytra with sparse pile as well. Yuma, Ariz. . . . . *jaguriana* Knoll

(21) ***Acmaeodera larreae*** Fall

*Acmaeodera larreae* FALL, 1907, *Canad. Ent.*, 39, 241<sup>1</sup>; CHAMB., 1926, *Cat. Bupr. N. Am.* 24<sup>2</sup>.

An elongate, cylindrical species, questionably separable from *cribricollis* Horn, the type of which was collected at El Paso, Tex.

Type locality: Mojave, California.

Recorded distribution: Arizona<sup>2</sup>; California, Mojave<sup>1</sup>.

New records, California, Imperial Co., Palm Springs; Arizona, Tucson; Lower California, Chapala dry lake, June 21, 1938 (M. and R.).

(22) ***Acmaeodera vanduzeei*** Van Dyke

Plate 6, fig. 9

*Acmaeodera vanduzeei* VAN DYKE, 1934, *Ent. News.*, 45, 64-65.

This species is only represented by the type species as far as I know. The more or less cylindrical form, short elytral setae and dense, scaly vestiture of abdomen, make it rather a distinctive species.

Type locality: Angel de la Guardia Island, Pond Island Bay, Lower California.

(23) ***Acmaeodera quadrivittata*** Horn

*Acmaeodera quadrivittata* HORN, 1870, *Trans. Am. Ent. Soc.*, III, 79; 1878<sup>1</sup> *Trans. Am. Ent. Soc.* VII, 23<sup>2</sup>; FALL, *Journ. N. Y. Ent. Soc.*, VII (1), 34; CHAMB.; 1926, *Cat. Bupr.*<sup>3</sup>, 33.

This small and rather distinctly marked species is common and widely distributed throughout the Southwest.

Type locality: Utah (Palmer).

Recorded distribution: Colorado, Utah, Texas, New Mexico, Arizona, California<sup>2, 3</sup>.

New records: Lower California: Hamilton Ranch, Aug. 2, 1938. (M. and R.) and ten miles W. of San Fernando, 40 specimens, July 31, 1938, in flowers of *Echinocactus* (M. and R.).

Genus ***Acmaeoderoides*** Van Dyke, new genus

Small, short and compact. Head of moderate size, transverse; eyes rather large, elliptical and vertical, well separated by a broad front; antennae eleven-segmented, reaching middle of prothorax, first segment clavate, second small and elliptical, third subcylindrical and about twice as long as broad, fourth to tenth moderately serrate, eleventh elongate elliptical. Prothorax transverse, evenly convex above with feebly impressed median longitudinal impression, deep foveae within hind angles near base, without lateral margins, and with a finely elevated meshwork of sculpturing, produced by the finely elevated margins of the broad and shallow umbilicate punctures. Scutellum distinct, cordiform. Elytra somewhat over twice as long as prothorax, more or less flattened on disk, margins serrate apically, with punctured striae well impressed and sparsely clothed with short, suberect, and more or less hooked scales, a bit more robust than the similar type of scales on head and prothorax, and ar-

ranged in rows on the feebly elevated intervals; and with the epipleurae broadly lobed in front thus covering the outer portion of metasternum, metaepimeron and outer part of hind coxae plate. Beneath: hind coxae with the anterior margin straight; the first and second ventral plates often distinctly separated by a well impressed transverse linear impression though probably connate. Tarsal claws with a broad basal tooth.

Genotype: *Acmaeodera insignis* Horn.

This genus is established for the reception of a series of three small species previously described in the genus *Acmaeodera*, *A. rossi* Cazier (*Tyndaris balli* Knull) and *A. humeralis* Cazier being the other species included besides the genotype. The fact that all had a very distinct scutellum escaped the attention of Horn and Cazier. This fact indicates that they could not belong to *Acmaeodera* since one of the primal characters of that genus is the concealed or practically absent scutellum. The presence of a scutellum in the present genus also indicates that it is of primitive stock. Further study also confirms this by finding the first and second ventral segments more or less separated by an evident suture in the type species, though this is obscure in *rossi* and *humeralis*. The prothorax without lateral margins and the broadly lobed epipleurae in front concealing the side pieces of the metathorax are added characters of distinction.

(24) ***Acmaeoderoides insignis*** (Horn)

Plate 6, fig. 4

*Acmaeodera insignis* HORN, 1894, Proc. Calif. Acad. Sci. (2) IV, 377.

This is a small, stubby, black species with clouded yellow markings found in the desert regions of southern California and Lower California.

Type locality: Lower California (Type No. 28, C.A.S.), San Ramundo, in cactus flower.

New records: Lower California, Isla Partida, Gulf of Calif. (C.A.S.); and southern California, Palm Springs (Timberlake).

(25) ***Hippomelas obliteratus*** (LeConte)

*Chalcophora obliterata* LECONTE, 1858, Proc. Acad. Nat. Sci. Phil., 66.

*Gyascutus obliteratus* LECONTE, 1859, Trans. Am. Phil. Soc., 11, 189; Horn, 1894, Proc.

Calif. Acad. Sci., 4(2), 327; CASEY, 1909, Proc. Wash. Acad. Sci., 11(2), 65.

*Hippomelas obliteratus* KERR., 1903, Gen. Insect. Fasc. 12(1), 65.

*Gyascutus fidelis* CASEY, 1909, Proc. Wash. Acad. Sci., 11(2) 65.

This very variable species ranges from west Texas to the desert parts of southern California and also extends well into Lower California. It is normally found about mesquite (*Prosopis*).

Type locality: near the international boundary between El Paso, Texas, and San Diego, California.

Recorded distribution: western Texas, New Mexico, Arizona, southern Nevada, southern Utah, southern California and from El Chinche and Cabo San Lucas in Lower California (Horn).

New records: San Pedro Bay, Gulf of Calif., July 7, 1921, E. P. Van Duzee (C.A.S.); Catavina, Lower Calif., June 19, 1938 (M. and R.) and 7 miles S. of El Mármol, L. Calif., June 18, 1939 (M. and R.).

(26) **Hippomelas planicosta** (LeConte)

*Chalcophora planicosta* LECONTE, 1858, Proc. Ac. Nat. Sci. Phila., 66.

*Gyascutus planicosta* LECONTE, 1859, Trans. Am. Phil. Soc., 189, pl. 12, fig. 1; Casey, 1909, Proc. Wash. Acad. Sci., 61.

*Hippomelas planicosta* KERR., 1903, Gen. Insect. Fasc. 12(1), 65.

This species is widely distributed throughout the arid Southwest, extending into western Mexico and Lower California. It is a most variable species, breaking up into an innumerable number of races and varieties, which often differ much in size, form, sculpturing and color, yet which seem to me all linked together in one great complex, the species *planicosta*.

Type locality: along the International Line between El Paso, Texas, and San Diego, California.

Recorded distribution: various places in southern California, Arizona, New Mexico, and the states of Sonora and Durango in Mexico.

New records: Pond Island Bay, Lower Calif., June 20, 1921 (C.A.S.) and San Marcos Island, Gulf of Calif., June 19, 1921 (C.A.S.), collected by E. P. Van Duzee and others during 1921 Expedition of California Academy of Sciences.

The specimens from Pond Island are three in number, and are all rather short, reddish in color, and non metallic except about the head. From San Marcos Island, there are thirty nine specimens, all similar in shape to the above. These latter resemble typical southern California specimens, but are in general shorter, proportionally broader and stouter, have the pronotal callosities more broken up and scattered; the elytra with the carinae more regularly elevated, especially posteriorly, with the area at the base of the first stria also considerably elevated and callosed, and the upper surface in general black and with but little metallic lustre. It is a well marked race, yet hardly worthy of a distinctive name.

(27) **Hippomelas caelatus** LeConte

*Chalcophora caelata* LECONTE, 1858, Proc. Acad. Nat. Sci. Phila. 67.

*Gyascutus caelatus*, LECONTE, 1859, Trans. Am. Phil. Soc., 190.

*Hippomelas caelata* KERR., 1903, Gen. Insec. Fasc. 12, 65; CHAMB., 1926, Cat Buprestidae, 206.

*Stictocera caelata* CASEY, 1909, Proc. Wash. Acad. Sci., 69.

This species like the two preceding ranges throughout the warmer areas of our Southwest. It breeds in a number of desert trees like the Palo Verde (*Cercidium floridum*).

Type locality: Ures, Sonora, Mexico.

Recorded distribution: various places in Texas, Arizona, southern California, northwestern Mexico and Lower California.



(28) **Hippomelas** Castelnau, Subgenus **Nanularia** Casey

*Nanularia* CASEY, 1909, Proc. Wash. Ac. Sci., 11(2), 172-173.

*Nanularia*, I cannot consider as a genus. Its dominant structural characters, such as the form of the sternum and the disposition of the antennal pores, are entirely in agreement with the characters that define the tribe Chalceophorini, and are not in agreement with those of the tribe Buprestini where it is now placed in the Leng Catalogue. It is in fact very close to the genus *Hippomelas*, in reality nothing more than a subgenus of that where I am placing it. In a species which I have before me, are found characters which show its close relationship to certain of the smaller and more cupreous forms of *Hippomelas obliteratus* (Lec.). The appendix of the eleventh antennal segment, a character upon which Casey placed much weight, I consider of little importance generically, seeing that it is more or less vestigial in nature and, as would be expected, quite variable, as can be shown by examining a respectable series of many of the species. In *Hippomelas* proper, there are always evidences of pronotal callosities whereas in *Nanularia*, typical callosities are absent, a median smooth area in some specimens being the nearest approach.

In the past, the specimens of *Nanularia* have been so rare in collections that comparative studies of the species could not be made with satisfaction. We, fortunately, now have numerous specimens of some of the species, so an attempt will be made to differentiate those which are now known to me.

Key for the species of the subgenus *Nanularia* of *Hippomelas*:

1. Outer antennal segments as broad or broader than long; first segment of posterior tarsi about one third longer than second. . . . . 2  
Antennal segments all longer than broad; prothorax with sides feebly arcuate, broadest at middle, disk very coarsely, irregularly punctured with punctures frequently anastomosing; elytra subcylindrical or feebly narrowing behind, with intervals definitely raised, irregularly interrupted and thus somewhat granular in appearance; first segment of hind tarsi almost twice as long as second. . . . . *granulatus*
2. Antennae extending backwards beyond center of prothorax; body unicolored, a deep reddish bronze; pronotum coarsely, rather uniformly punctured. . . . . 3  
Antennae short, not extending backwards beyond center of prothorax; body generally bicolored, head and prothorax a greenish bronze, elytra a reddish bronze; pronotum more finely, closely punctured and conspicuously pubescent. . . . . *inyoensis*
3. Prothorax with sides quite arcuate anteriorly, broadest in front of middle, disk coarsely deeply punctured with distinct median longitudinal impression; elytra always broadest at humeri, narrowing posteriorly. . . . . *cupreofusca*  
Prothorax with sides feebly arcuate, broadest at middle, disk with punctures coarse and dense, median longitudinal impression vague; elytra with sides almost parallel in front. . . . . *californica*

(29) **Hippomelas** (**Nanularia**) **granulatus** Van Dyke, new species

Elongate, cylindrical, rugose above, dark, violaceous bronze and somewhat dull in appearance. Head flattened in front, coarsely, irregularly punctured and sparsely clothed with fine, suberect, white pile, with distinct, angular

frontal prominences above the antennal sockets; eyes as usual large and prominent; antennae extending back behind middle of prothorax, segments all longer than broad, third subcylindrical, one-third longer than second, fourth twice as long as broad, 4-11 gradually shorter and with free angles well rounded, eleventh with the merest rudiment of an appendage. Prothorax about one-third broader than long, widest at middle, base broadly lobed at middle, the lobe feebly emarginate in front of scutellum, sides slightly arcuate in front, sinuate behind; disk very coarsely, irregularly punctured, the punctures anastomosing here and there. Elytra about one mm. longer than twice as long as wide, broadest at base, or with sides parallel in basal half, narrowing apically, apical margins finely serrate; disk evenly convex, striae well defined, intervals well elevated but broken up into a multitude of fine granulations by numerous interruptions. Beneath coarsely punctured in front, prosternal spine smooth, and more finely punctured and somewhat scabrous on abdomen, the hind margins of segments smooth, entire surface also sparsely pubescent. Hind tarsi with first segment almost twice as long as second. Holotype, length 11 mm., breadth 3.75 mm., paratype, length 8 mm., breadth 2.5 mm.

*Holotype*, (No. 4840, Mus. C.A.S. Ent.) from **10 miles S. of Punta Prieta, Lower California**, June 21, 1938; paratype from Catavina, Lower California, June 19, 1938; both collected by Michelbacher and Ross.

This rather dull and rugose species looks much like a diminutive *Hippomelas sphenicus*. It also suggests a small *Hippomelas obliteratus* (LeC.). In fact three small specimens of a dark cupreous phase of the latter were taken by Michelbacher and Ross, in Lower California, one in fact at Catavina, which were at first confused with these. The antennae of *obliteratus* are, however, much longer, passing behind the hind margin of the *prothorax*, the individual segments much longer proportionately though these vary sexually. The callosities on the disk on the prothorax, the much more planed down sculpturing of the elytra, and the more tapering form of the afterbody also distinguish this species from *granulatus*. The long-segmented antennae, long first segment to hind tarsi, and tendency to have discal callosities on the prothorax show that *granulatus* is also somewhat of a connecting link between *obliteratus* and the more typical species of *Nanularia*. From its fellows in the latter subgenus, *granulatus* differs as indicated in the Key, by the longer antennae, more rugose and granular sculpturing and duller appearance.

(30) **Hippomelas (Nanularia) inyoensis** Van Dyke, new species

Elongate, cylindrical, punctate-rugose, moderately clothed with a fine, short pile, most evident on head and prothorax, and bicolored, the head, prothorax and under surface of a greenish bronze, the elytra of a reddish bronze. Head feebly convex in front, densely punctured, and clothed with short, fine, erect, white pile, the supraantennal prominence small and angular; eyes large and moderately prominent; antennae short, about reaching middle of prothorax,

third segment subcylindrical and a third longer than broad, fourth as broad as long, 5-10 transverse, and eleventh with a small appendage, almost obliterated in males. Prothorax barely a fifth broader than long, generally broadest at base, gradually arcuately narrowing forwards and feebly sinuate near apex, apex slightly arcuate medially, base with short, broad lobe, emarginate in front of scutellum; disk densely, somewhat coarsely punctured and pubescent like the head and generally with a vague, median longitudinal impression. Elytra slightly more than twice as long as broad, just perceptibly broader at humeri than at posterior third, feebly sinuate at middle and gradually narrowing apically to truncate apices, the apical margins finely, somewhat indistinctly serrate; disk moderately flattened, striae distinct and irregularly punctured and the intervals but little elevated, irregularly punctured and rugose, and sparsely clothed with a short, fine, suberect pile. Beneath coarsely punctured in front, more finely punctured on ventral segments. Hind tarsi with first segment about one-third longer than second. Holotype female, length 8 mm., breadth 2.75 mm.; allotype male, length 6.5 mm., breadth 2 mm.

*Holotype*, female (No. 4841, Mus. C.A.S. Ent.) and *allotype*, male (No. 4842, Mus. C.A.S. Ent.), collected by myself near **Lone Pine, Inyo Co., Calif.**, the first, June 1, 1937, the second, May 23, 1937. I have also designated as paratypes numerous specimens from my series of about a hundred and fifty specimens, collected on various days during May and June, 1937, as well as some specimens collected by others. These specimens were all collected from the stems of the "Desert Trumpet," a wild buckwheat, *Eriogonum inflatum* Torr. and Frem., upon which they seemed to be feeding.

(31) **Hippomelas (Nanularia) cupreofusca** (Casey)

*Nanularia cupreofusca* CASEY, 1909, Proc. Wash. Acad. Sci., 11 (2), 173-174.

Casey's species was described from a single specimen received from Dr. F. E. Blaisdell, who collected it at Poway, San Diego Co., Calif. The California Academy has thirteen specimens, all collected by Dr. Blaisdell at the same time and place as the type. They were all taken from the nests of a species of *Cerceris* which was provisioning its nests with them. The specimens are all quite uniform in structure. At one time the specimens were treated with a solution of bichloride of mercury, to keep off pests. This left its mark by changing the color to a slight degree. Before treatment, they were of the dark, reddish copper color as in *californica*. This species is of course very close to *californica*, and with more material of the latter, may be found to grade gradually into it.

(32) **Hippomelas (Nanularia) californica** (Horn)

*Gyascutus californicus* HORN, 1875, Tr. Am. Ent. Soc., V, 147

*Nanularia? californica* CASEY, 1909, Proc. Wash. Acad. Sci., 11 (2), 174.

This species was described from a unique in the Horn collection, now in the Philadelphia Academy of Sciences, but the author states that there were many

more specimens in the National Museum in Paris. It is apparently rare in collections in this country. I have two specimens collected by myself in Calaveras Co. which is in the San Joaquin Valley, the type locality, on *Eriogonum*, and one from near Ben Lomond, Santa Cruz Co., collected by Laurence Saylor.

This species, judged by the specimens at hand, differs from the preceding by being more uniformly cylindrical, by having the prothorax broadest at middle, not in front of, and the punctuation less coarse and more regularly distributed.

### (33) *Dicerca horni* Crotch

*Dicerca horni* CROTCH, 1873, Proc. Ac. Nat. Sc. Phila., XXV, 86; CHAMB., 1926, Cat. Buprestidae N. Am., 185.

Type locality: Tulare Co., Calif.

Recorded distribution: Montana, Idaho, Wash., Oreg., Calif., Nevada, Col., and Ensenada and El Taste in Lower California.

New records: San Vicente, Lower Calif., May 11, 1938 (W. E. Simonds).

It is not strange that this common western North American species, which has a multitude of host plants and which is abundant in southern California, should range well into the northern portion of Lower California.

### (34) *Poecilonota cyanipes* Say

*Poecilonota cyanipes* SAY, 1923, Journ. Ac. Nat. Sci. Phila., III, 164; CROTCH, 1873, Proc. Ac. Nat. Sci. Phila., 25, 88; HORN, 1896, Proc. Cal. Acad. Sci., (2) VI, 369.

Type locality: Missouri.

The only record for this species from Lower California is that given by Horn, San José del Cabo. It is no doubt widely distributed there, and two other species of the genus which have been found close to the northern border also probably cross into its territory.

### (35) *Cinyra purpurascens* Schaeffer

*Cinyra purpurascens* SCHFFR., 1905, Science Bull., Mu. Brooklyn Inst. Arts and Sci., 1(6), 127.

This species described as from El Taste, Lower California, was collected by August Beyer. Aside from the type, there are several other known specimens, all collected by Beyer and now presumably in the collection of Howard Notman. It has not been taken by later collectors.

### (36) *Buprestis aurulenta* Linnaeus

*Buprestis aurulenta* LINN., 1767, Syst. Natur., 1, 661; NICOLAY and WEISS, 1918, Journ. N. Y. Ent. Soc. 26, 82-84.

*Buprestis lauta* LECONTE, 1859, Tr. Am. Phil. Soc., 11, 210.

Type locality: "Boreal America."

This species, widely distributed throughout the entire Pacific Slope of North America, has so far not been recorded south of California proper. I



have, however, seen remains of a specimen which was collected dead from beneath the bark of *Pinus radiata* Don., on the Island of Guadalupe off the coast of northwestern Lower California

(37) ***Anthaxia aeneogaster* Castelnau**

*Anthaxia aeneogaster* CAST., 1839, Hist. natur. Icon. des Col., 1, 32, pl. 7, f. 44, 108; HORN, 1894, Proc. Cal. Acad. Sci., (2)4, 327.

Type locality: California.

This very common, variable and wide spread species in western North America, was reported by Horn as from Cape St. Lucas, Lower California.

(38) ***Chrysobothris octocola* LeConte**

*Chrysobothris octocola* LECONTE, 1858, Proc. Acad. Nat. Sci., Phil., 67; HORN, 1886, Monogr. *Chrysobothris*, Tr. Am. Ent. Soc., XIII, 73; CHAMB., 1926, Cat. Bupr. N. Am., 165.

This species, common and widely distributed throughout the arid lands of our Southwest and northwestern Mexico, breeds in a number of our desert trees like the mesquite (*Prosopis*), Palo Verde (*Cercidium*), and *Olneya*. It was apparently first collected in Lower California by Gustav Beyer and first recorded by Chamberlin.

Type locality: Texas.

Recorded distribution: Various places in western Texas, Arizona, southeastern California, northwestern Mexico and Santa Rosa, Lower California.

New records: Lower California, 10 miles S. of Catavina, July 29, 1938; 7 miles S. of El Mármol, June 18, 1938; Chapala Dry Lake, June 21, 1938; 45 miles N. of San Ignacio, July 27, 1938; 15 miles N. of San Ignacio, June 24, 1939; 19 miles E. of Rosario; Catavina, June 19, 1938; and Miraflores, June 8, 1938; all collected by Michelbacher and Ross.

(39) ***Chrysobothris thoracicus* Schaeffer**

Plate 7, fig. 5

*Chrysobothris thoracicus* SCHFFR., 1905, Science Bull., Mus. Brooklyn Inst. Arts and Sci., I (6), 128-129.

*Chrysobothris edwardsii*, HORN, 1894, Proc. Cal. Acad. Sci. (2)IV, 328.

This species is very close to the peculiar species, *edwardsii* Horn, and was no doubt derived from the same stock. Its long isolation in Lower California, has, as in the case of several other species of Buprestidae found in the same region, enabled it to become sufficiently differentiated to appear as a distinct species. This is the species recorded by Horn as *edwardsii*. As indicated by Schaeffer, the prothorax is very much broader behind, more wedge shaped, than is that of *edwardsii*, and the angles of the clypeus are rounded and not dentiform as in the latter. A specimen of *edwardsii* from Hidalgo, Mexico, has the prothorax expanded behind as in *thoracicus* but the angles of the clypeus are more prominent than in typical *edwardsii*.



Type locality: Lower California, El Taste and Santa Rosa, collected by Gustav Beyer.

New records: Lower California, one male, 10 miles S.W. of San José del Cabo, July 9, 1938, and one female, Triunfo, July 13, 1938, both collected by Michelbacher and Ross; Angeles Bay, Gulf of Calif., June 5, 1921 (Van Duzee-C.A.S.); Miraflores, July 29, 1919 (J. R. Slevin-C.A.S.); and La Paz, June 29, 1919 (G. F. Ferris-C.A.S.).

The specimens collected by Beyer and studied by Schaeffer were all females. The male recorded above, is the first specimen of that sex to be found. The specimen has the front much more finely and densely punctured than in the female and also quite conspicuously pilose; has the pro- and mesosterna clothed with long, white pile, the former only laterally; the anterior tibiae arched and dilated apically, a prominent, toothlike enlargement present within and somewhat before the apex; and the last ventral segment broadly, shallowly sulcate at middle and semicircularly emarginate at apex.

(40) *Chrysobothrus peninsularis* Schaeffer

Plate 7, fig. 2

*Chrysobothris peninsularis* SCHAEFFER, 1904, Journ. N. Y. Ent. Soc., XII(4) 207-208.

This species was compared by Schaeffer with *floricola* with which I believe it has very little in common. It is in fact very close to the Mexican, *Chrysobothris distincta* Lap. and Gory, differing from small specimens of the latter, by being somewhat flatter; with the median sulcus of the pronotum poorly defined whereas well impressed in *distincta*; with the prothorax proportionally broader, length 2.25 and breadth 4.25 mm., as against an average length of 2.75 and a breadth of 4.50 mm. in the other; with the middle and outer elytral costae much less acutely elevated; and the punctuation and rugosity of the upper surface less coarsely and sharply defined. *Chrysobothris peninsularis*, though entitled to be classed as a distinct species, has most likely been derived from *distincta* stock and as the result of isolation been enabled to diverge to an appreciable degree. It is in fact a species with most of its distinctive characters the result of reduction and simplification.

Type locality: Lower California, San Felipe.

Recorded distribution: as above.

New records: Catavina, June 19, 1938; 7 miles S. of El Mármol, June 18, 1938, and 19 miles E. of Rosario, June 17, 1938, all collected by Michelbacher and Ross.

(41) *Chrysobothris debilis* LeConte

*Chrysobothris debilis* LECONTE, 1859, Trans. Am. Phil. Soc., XI, 236; HORN, 1886, Monogr. Chrysobothris, Trans. Am. Ent. Soc., XIII, 75; CHAMB., 1926, Cat. Buprestidae N. Am., 145-146.

*Chrysobothris disjuncta* LECONTE, 1859, Trans. Am. Phil. Soc., XI, 236.

*Chrysobothris lateralis* WATER., 1889, Biol. Centr.-Am., Col., III(1), 47-48, 185.

This small *Chrysobothris*, though described as from Ohio, is in reality a species characteristic of the more arid regions ranging from Texas to southern

California, northwestern Mexico and Lower California. Its most usual food plant is the mesquite (*Prosopis*) but Chamberlin also lists the Cat's Claw (*Acacia*), Palo Verde (*Cercidium*) and Emory Oak (*Quercus emoryi*). I believe that I have also collected it on other desert shrubs. The specimens from the United States are mainly of the typical form with the entire pronotum a uniform bronze color, but those from Sonora and Lower California as well as numerous specimens from Texas are of the variety *lateralis*, which has the lateral margins of the prothorax a bright coppery red color.

Type locality: Ohio; of *disjuncta*, Arizona; and of *lateralis*, northern Sonora (Morrison).

Recorded distribution: Ohio, numerous localities in Texas, Arizona, New Mexico, St. George, Utah, Colorado and southern California, as well as from Santa Rosa, Lower California (G. Beyer).

New records: Lower California, 7 miles S. of El Mármol, June 18, 1938; Chapala Dry Lake, June 21, 1938; Catavina, June 19, 1938; 10 miles S. of Punta Prieta, June 21, 1938; and El Mármol, June 18, 1938, all collected by Michelbacher and Ross.

(42) ***Chrysobothris rossi*** Van Dyke, new species

Plate 7, fig. 4

Small, moderately broad and somewhat flattened, dark cupreous, prothorax often lighter, sometimes reddish, the elytral sculpturing rather clean cut and the foveae deep and coppery red. Head feebly convex at most, rather densely punctured and sparsely pubescent, the divisions of the occipital chevron continued forwards and downwards, parallel to the inner margin of the eyes, forming in general a well marked, horseshoe-shaped callosity enclosing the median portion of the front and the two median callosities; the clypeus semi-circularly emarginate with outer angles rounded; antennae short, bronzed, hardly reaching behind middle of prothorax, third segment as long as the two following, fourth to eleventh gradually narrower. Prothorax over one third broader than long, apex broadly, feebly lobed at middle, sides narrowed in front thence more or less evenly arcuate and gradually narrowed towards base, which is but little narrower than apex and strongly bisinuate; disk rather feebly convex, alutaceous, finely, rather densely and somewhat uniformly punctured, finely strigate at sides, without well marked impressions, the median longitudinal and sometimes basal impressions vaguely indicated, and occasionally a smooth carina in front of scutellum. Elytra somewhat less than twice as long as broad, slightly broader at humeri than prothorax, base of each elytron somewhat angulate, sides straight and parallel from humeri to posterior third or sometimes feebly sinuate, thence acutely narrowed to individually rounded apices, the side margin distinctly serrate posteriorly; disk somewhat convex, with sutural and four other more or less definitely defined carinae on each elytron, the first linear, almost reaching apex and fading out towards base, also slightly diverging from suture towards base

and feebly arcuate towards apex, the second somewhat parallel to first and divided into three portions by the median and posterior foveae, the third commencing near the prominent humeri and running obliquely inwards towards the second with which it generally unites posterior to the posterior foveae, though often somewhat distorted just before by the foveae, and the fourth which is generally vague extending along parallel with and just within the lateral margin, the foveae all distinct, the basal deep, the median shallow and broad, dividing the second carinae, and the posterior one third the distance from the apex, generally divided transversely into two and somewhat distorting the second and third carinae, all foveae finely punctured and of a bright copper color, the general surface elsewhere alutaceous and more or less densely punctured and finely rugose. Beneath with anterior margin of prosternum prominently lobed, prosternum coarsely, closely punctured, the metasternum more coarsely and less closely punctured, and the abdominal segments medially rather densely and finely punctured, the anterior and posterior margins of all segments smooth and the second, third and fourth laterally each with a small callosity; last ventral with sides straight or sinuate with a serrulate border; the general surface rather conspicuously pubescent. Anterior femora with a prominent tooth, serrulate on the distal side. Length 7-9 mm., breadth 3-4 mm.

Males with prosternum finely, densely punctured and conspicuously pubescent, metasternum and coxal plates also finely punctured; anterior tibiae arcuate and with a somewhat elongate dilatation within at apex; and last ventral with a distinct emargination at apex.

Females with prosternum more coarsely, less densely punctured and less markedly pubescent, metasternum and coxal plates also much more coarsely and discretely punctured; the anterior tibiae arcuate but not suddenly enlarged at apex; and the last ventral truncate at apex or with a feeble emargination at most.

*Holotype*, male (No. 4836, Mus. C.A.S. Ent.), from **15 miles N. of San Ignacio, Lower California**, June 24, 1938; *allotype*, female (No. 4837, Mus. C.A.S. Ent.) from **Catavina, Lower California**, June 19, 1938; and numerous designated paratypes from a series of fifty-four specimens collected in the following additional localities in Lower California: Chapala Dry Lake, June 21, 1938, 7 miles S. of El Mármol, June 18, 1938; 20 miles N.W. of La Paz, July 16, 1938; 20 miles W. of Santa Rosalia, June 24, 1938; 15 miles N. of El Refugio, July 4, 1938; 25 miles S. of Santa Rosalia, July 25, 1938; Mesquital, July 28, 1938; Coyote Cove, Concepcion Bay, June 29, 1938; San Domingo, July 19, 1938; and Triunfo, July 13, 1938. All specimens were collected by Michelbacher and Ross.

This species would run close to *debilis* Lec. in Horn's Group I, because of its evenly rounded, non sulcate pronotum and small size. It differs from this, though, by being broader and more depressed; the front as a rule with a well marked horseshoe like callosity; the prothorax proportionally broader and

with sides more definitely arcuate; the elytra with the second and third carinae about as well defined as the first, the basal foveae deeper and the punctation more regular; the undersurface more conspicuously pubescent and the last ventral generally more narrowed apically and with the sides sinuate. It is named after Dr. E. S. Ross, in appreciation of his efforts in extending our knowledge of the insects of Lower California.

(43) **Chrysobothris purpureoplagiata** Schaeffer

Plate 7, fig. 3

*Chrysobothris purpureoplagiata* SCHFFR., 1904, Jour. N. Y. Ent. Soc. XII, 206, SCHFFR., 1905, Science Bull. Mus. Bull. Brooklyn Inst. Arts and Sciences, I(8), 130; CHAMB., 1926, Cat. Buprestidae N. Am., 167.

*Chrysobothris purpureovittata* HORN, 1894, Proc. Calif. Acad. Nat. Sci., (2)IV, 328.

This small and brilliantly green or blue species with deep violet vittae is quite variable as to its color pattern. The typical phase from Florence, Arizona, as stated by Schaeffer, was a "bright green, elytra with more or less distinct purple blotches at apical third, like *lucana* Horn." The California Academy of Sciences has California specimens from the Coachella Valley that have the blotches so much reduced near the apices that the elytra might almost be called unicolorous green. The Lower California specimens almost without exception on the other hand, have the violet markings in the form of a broad vitta extending from the anterior fourth almost to the apex of each elytron as illustrated in the plate. In fact the pattern is so close to that of *purpureovittata* Horn; that Horn was led to cite the latter, in his paper on Lower California Coleoptera, as being found in Lower California. No true *purpureovittata* have ever been found in the latter region as far as I know.

Type locality: Florence, Arizona.

Recorded distribution: southern Arizona and Lower California, El Taste, San Felipe and San José del Cabo.

New records: Coachella Valley, Calif. (C.A.S.); Lower California, 7 miles S. of El Mármol, June 18, 1938; Triunfo, July 13, 1938, 15 miles N. of San Ignacio, June 24, 1938; 15 miles N. of El Refugio, July 4, 1938; 25 miles S. of Santa Rosalia, July 25, 1938; 14 miles S. of El Arco Mines, June 23, 1938; 45 miles N. of San Ignacio, July 27, 1938; 10 miles S. of Punta Prieta, June 21, 1938; San Domingo, July 19, 1938; Mesquital, July 28, 1938; 15 miles W. of La Paz, July 5, 1938; and 5 miles S. of San Miguel, July 20, 1938; all collected by Michelbacher and Ross.

(44) **Chrysobothris exesa** LeConte

*Chrysobothris exesa* LECONTE, 1858, Proc. Ac. Nat. Sci. Phil., 68; HORN, 1886, Monogr. Chrysobothris, Trans. Am. Ent. Soc., XIII, 95; CHAMB., 1926, Cat. Buprestidae N. Am., 150.

This distinctly sculptured species, characteristic of the arid Southwest, which breeds in mesquite (*Prosopis*) and Cat's Claw (*Acacia*), was taken for the first time in Lower California by Michelbacher and Ross.



Type locality: Arizona.

Recorded distribution: Various places in southeastern California, Las Vegas, Nevada, Arizona, New Mexico, Colorado, Texas and in Sonora, Mexico.

New records: Lower California, 7 miles S. of El Mármol, June 18, 1938, (M. & R.), two males.

(45) **Chrysobothris beyeri** Schaeffer

Plate 7, fig. 7

*Chrysobothris beyeri* SCHFFR., 1904, Journ. N. Y. Ent. Soc., XII (4), 207; CHAMB., 1926, Cat. Buprestidae N. Amer., 139.

This species, one of the most distinct and characteristic of Lower California, appears to have been collected only by Gustav Beyer in 1901. It was collected in numbers in May and June on willow.

Type locality: Lower California, San Felipe.

Recorded distribution: San Felipe and Santa Rosa in the Cape Region of Lower California.

(46) **Chrysobothris michelbacheri** Van Dyke, new species

Plate 7, fig. 6

Rather small, broad, subdepressed, distinctly sculptured above, of a bronze color with head (male) a bright reddish copper color. Head with occiput feebly convex, front flattened, rather coarsely densely punctured, generally a small chevron above and two oblique median callosities below, and quite densely clothed with long white pile; clypeus with a broad V-like, or sometimes semicircular emargination with outer angles blunt or feebly rounded; antennae extending almost to hind angles of prothorax, bronzed or faintly greenish, third segment as long as next two, fourth to eleventh segments gradually narrower. Prothorax over a third broader than long, suddenly obliquely narrowed at apex, broadest behind anterior constriction, sides at middle feebly convergent behind and more decidedly convergent and narrowed near base, apex feebly lobed at middle and base trisinate as usual; disk shallowly longitudinally impressed at middle, with feeble transverse impressions laterally near apex, deeper and more foveate impressions behind, above near middle, and sometimes feeble oblique impressions near front angles, with one or two vague callosities anteriorly at most, the general surface distinctly, rather closely punctured and transversely strigate and alutaceous. Elytra somewhat less than twice as long as broad, broader at humeri than prothorax, base of each elytron rounded, sides almost straight and parallel at middle, and oblique and convergent from posterior third to apices, the latter blunt, margins serrate, most evidently so posteriorly; disk feebly convex, costae well elevated and sharply defined, the sutural and first costae straight and linear, the second commencing at the middle of base, broad and comma-like joining the first at anterior third and interrupted posteriorly at this point, appearing again at



middle as an irregular callosity and after a second interruption near apex as a short, somewhat elongate callosity, the third costae commencing near humeri, following a more or less sinuous course, touching the median callosity of second, narrowing or obliterated behind this and terminating as a small callosity near the terminus of the second, and the fourth costae, a narrow, somewhat less sharply defined one, following just within the side margin until near the posterior third where it turns inwards and increases its distance from the margin, the areas between the costae and callosities depressed and rather regularly and more coarsely punctured than are the callosities. Beneath, anterior margin of prosternum distinctly lobed, prosternum rather coarsely, closely punctured and pubescent, the pubescence also more or less generally disposed over the rest of the ventral surface; ventral segments with well marked lateral callosities. Front femora with a prominent tooth, serrulate on its distal edge. Last ventral with a serrulate border but without submarginal ridge. Length 7.5–9.5 mm., breadth 3–4 mm.

Males. Head cupreous, prosternum coarsely and closely punctured; anterior tibiae with a double humped enlargement near apex; and last ventral segment rather deeply, semicircularly emarginate at apex and with pronounced angles at outer boundary of emargination.

Females. Similar to males except that head is more closely punctured and less densely pilose, the front tibiae without terminal dilatation and the last ventral with the terminal emargination smaller.

*Holotype*, male (No. 4834, Mus. C.A.S. Ent.), from **10 miles S. of Punta Prieta, Lower California**, June 21, 1938, *allotype*, female (No. 4835, Mus. C.A.S. Ent.), from 7 miles S. of El Mármol, June 18, 1938, four male paratypes from the following localities: 7 miles S. of El Mármol, June 18, 1938, 10 miles S. of Catavina, June 29, 1938, San Domingo, July 19, 1938, and Catavina, June 19, 1938 and one female paratype from 14 miles S of El Arco Mine, June 23, 1938, all specimens from Lower California and collected by Michelbacher and Ross. This beetle is named after Dr. A. Michelbacher as a slight acknowledgment of his efforts and generosity in making available the splendid series of insects from Lower California.

This small species belongs in Horn's group IV (Trans. Am. Ent. Soc., XIII, 1886, p. 97) and close to *mali* Horn. It is of about the same size and shape, but differs greatly in its sculpturing, the elytral costae being always linear and generally much depressed in *mali* while the foveae are as a rule very conspicuous because of their fine punctuation and bright red metallic coloration. In *micelbacheri*, the costae are more sharply elevated, more irregular, and the second much interrupted and also expanded into smooth callosities, the foveae also not demarked from the general impressions either by being more circumscribed or differing in color. It is in fact one of the most sharply sculptured of any of our smaller species in the genus.



(47) *Chrysobothris lixa* Horn

*Chrysobothris lixa* HORN, 1886, Monogr. *Chrysobothris*, Tr. Am. Ent. Soc., XIII, 101; HORN, 1894, Proc. Calif. Acad. Sci. (2) IV, 328; CHAMB., 1926, Cat. Buprestidae N. Am., 160-161.

This small species has been listed from Texas, Arizona, and Nevada as well as from Calamound, Lower California. Horn states that the collector Morrison, found it abundant in Arizona. I also found it abundant in northern Arizona in the territory from Williams to Flagstaff. It was generally beaten from the branches of the ponderosa pine.

Type locality : Texas.

Recorded distribution : as above. Not taken by Michelbacher and Ross in Lower California.

(48) *Chrysobothris acutipennis* Chevrolat

*Chrysobothris acutipennis* CHEVR., 1835 Col. Mex., fasc. 6, 190; HORN, 1886, Monogr. *Chrysobothris*, Tr. Amer. Ent. Soc., XIII, 107; 1894, Proc. Calif. Acad. Sci., (2) IV, 328; CHAMB., 1926, Cat. Buprestidae N. Amer., 136.

*Chrysobothris cupreoacnea* CAST., 1838, Hist. natur. Icon. des Col., 39, p. 7, f. 55.

*Chrysobothris acuminata* LECONTE, 1859, Tr. Am. Phil. Soc., 237.

*Chrysobothris cupreosignata* THOMS., 1878, Types Buprestidae, 80.

This Mexican species which is also to be found in parts of Texas and Arizona, is listed by Horn as from San José del Cabo, Lower California.

Type locality : Mexico.

Recorded distribution : San Diego, Texas, Arizona, and numerous places in Mexico. It does not appear to have been collected by Beyer or Michelbacher and Ross.

(49) *Chrysobothris martha* Van Dyke, new species

Plate 7, fig. 8

Small, stocky, moderately convex above, the pronotum without callosities or impressions, the elytra with from two to three incomplete carinae, and aeneous or bronzed, the elytra often with a bluish caste, and each elytron with three bright cupreous foveae, and in addition sometimes the humeral umbone, the frons, antennae and femora more or less bright cupreous. Head with occiput coarsely, densely punctured and with a smooth and grooved, median longitudinal line, the front flattened, sparsely pubescent, rather densely but not approximately punctured, with an obscure horseshoe-shaped callosity arising from the vertex and sometimes with a vague callosity beneath, the clypeus very broadly, arcuately emarginate, with outer angles rounded; antennae short, not reaching hind angles of prothorax, third segment almost as long as the two following segments together, the following with the serrations gradually narrower towards apex. Prothorax almost twice as broad as long, rather suddenly narrowed at apex, broadest at anterior third and gradually narrowed towards base, the sides generally feebly arcuate but sometimes almost straight, the apex feebly lobed in front, base deeply bisinuate as usual ;

the disk evenly convex and rather coarsely, densely punctured. Elytra slightly over twice as long as wide, broader at humeri than prothorax, each elytron rounded at base, sides almost straight from humeri to posterior third, then arcuate and gradually narrowed to the blunt apices, margins serrate posteriorly; the disk evenly convex, with sutural and from two to three discal carinae more or less well defined, the sutural and first carina linear and extending from near apex to anterior third, the second short and poorly defined, the third vague at most, the basal foveae deep, median large and well impressed, the third transverse and distinct at posterior third, and all brilliantly cupreous, the humeral umbone well marked, often extending posteriorly and inwards as a ridge and sometimes with a bright cupreous spot on outer portion, the general surface rather coarsely punctured, more closely and somewhat scabrous towards base, more finely, less densely and with smoother surface posteriorly. Beneath, anterior margin of prosternum distinctly lobed, prosternum rather coarsely and densely punctured, the general surface also alutaceous and clothed with a depressed white pile and a powdery white substance which at times conceals the punctuation. Front femora with a prominent nonserrate tooth. Last ventral segment with sides with but few rudimentary serrations or granules. Length 5–6.5 mm., breadth 2.25–3 mm.

Males with prosternum more densely punctured and transversely strigate anteriorly; front tibiae arcuate and dilated apically within; and the last ventral segment moderately emarginate at apex.

Females similar to males except that the prosternum is less densely punctured; the front tibiae less arcuate and without apical dilatation; and the apex of last ventral segment more broadly and less deeply emarginate.

*Holotype*, male (No. 4838, Mus. C.A.S. Ent.), collected **15 miles N. of El Refugio, Lower California**, July 4, 1938; *allotype*, female (No. 4839, Mus. C.A.S. Ent.), collected **15 miles W. of La Paz, Lower California**, July 5, 1938; and one paratype female, collected 15 miles N. of San Ignacio, Lower California, June 24, 1938, all specimens collected by Michelbacher and Ross.

This pretty little beetle apparently belongs in Horn's Group VII, and somewhere near *aeneola*. Its distinctive characters are the small size, evenly arcuate and densely punctured pronotum, elytra often with a bluish caste, with several evident carinae, very conspicuous cupreous foveae, the last ventral without distinct lateral serrations, and the antennae with third segment only as long as the two following united. This pretty little beetle, I take pleasure in naming after Mrs. Martha Michelbacher, the third and by no means unimportant member of the Michelbacher and Ross party which has so recently visited and collected throughout Lower California.

#### (50) *Agrilus inhabilis* Kerremans

*Agrilus inhabilis* KERR., 1900, Ann. Soc. Ent. Belg., 44, 341; KERR., 1903, Gen. Insect., Fasc. 12, 286; CHAMB., 1926, Cat. Buprestidae N. Amer., 66; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst., U. S. Nat. Mus., 178–179.

*Agrilus ineptus* HORN, 1894, Proc. Cal. Acad. Sci. (2)4, 378–379.

This rather inconspicuous, blue *Agrilus* seems to be restricted to the Cape Region of Lower California. The only specimens existing seem to be the holotype in the Museum of the California Academy of Sciences, the paratype No. 3483 in the Philadelphia Academy of Natural Sciences, and perhaps specimens in the collection of Howard Notman (coll. G. Beyer).

Type locality: Lower California, Pescadero (Holotype No. 29, Mus. C.A.S. Ent.). In the original description Horn gives Corral de Piedra, Sierra El Taste and Pescadero as type localities, but the only specimen in the California Academy of Sciences, which is undoubtedly the holotype, bears the label "Pescadero." The paratype bears no locality designation.

Recorded distribution: as above with the addition of Santa Rosa, cited by Chamberlain.

#### (51) *Agrilus niveiventris* Horn

*Agrilus niveiventris* HORN, 1891, Trans. Am. Ent. Soc., 18, 304-305; HORN, 189, Proc. Cal. Acad. Sci., 4(2), 328; CHAMB., 1926, Cat. Buprestidae, 71; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst., U. S. Nat. Mus., 145-148.

This beetle, which is very common in southern California where it breeds in various species of willow, has been collected a number of times in Lower California, Horn reporting it first in 1894 as from San Pedro Martir and Michelbacher and Ross submitting specimens from the Hamilton Ranch, August 2, 1938.

Type locality: western Nevada.

Recorded distribution: various places in California, western Nevada, Arizona, New Mexico and Lower California. Many of the early records, as for instance those from British Columbia, Oregon and much of northern California, formerly cited for this species, have been found to refer to *fulminans* Fisher, a closely related but quite distinct species, formerly always confused with *niveiventris*.

New records: Hamilton Ranch, Lower California, one specimen (M. and R.).

#### (52) *Agrilus felix* Horn

*Agrilus felix* HORN, Trans. Amer. Ent. Soc., 18, 326-327; HORN, 1894, Proc. Cal. Acad. Sci., 4(2), 328; CHAMB., 1926, Cat. Buprestidae, 62; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst., U. S. Nat. Mus., 255-258

This species is well known throughout the Southwest. It has been reared from "Palo Verde" (*Parkinsonia microphylla* Torrey) by Hubbard and Schwarz.

Type locality: Tucson, Arizona.

Recorded distribution: various places in Arizona, Colorado, Utah and from San Julio, Lower California (Horn, 1894).

New records: twelve specimens from 45 miles N. of San Ignacio, July 27, 1938; Catavina, June 19, 1938; Mesquite, July 28, 1938; and 10 miles S. of Punta Prieta, June 21, 1938; all in Lower California, and all specimens collected by Michelbacher and Ross.



(53) *Agrilus lacustris* LeConte

*Agrilus lacustris* LECONTE, 1850, Agassiz Lake Superior, 227; LECONTE, 1859, Trans. Am. Phil. Soc., 11, 250; HORN, 1891, Trans. Am. Ent. Soc., 18, 330-331, pl. 8, fig. 10; HORN, 1894, Proc. Cal. Acad. Sci., 4(2), 329, CHAMB., 1926, Cat. Buprestidae, 67; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst., U. S. Nat. Mus., 305-308.

This is a variable species of wide distribution in the western part of the United States. It is most common in the Southwest, rather uncommon in California.

Type locality: Lake Superior region.

Recorded distribution: various places in Wisconsin, Illinois, Ontario, Kansas, Texas, New Mexico, Colorado, Arizona, California and Lower California. Records from New Jersey and Florida are supposed to be due to misidentification. San José del Cabo, cited by Horn, 1894, is the only record we have from Lower California. It was not collected by Michelbacher and Ross.

(54) *Agrilus addendus* Crotch

*Agrilus addendus* CROTCH, 1873, Proc. Ac. Nat. Sci. Phila., 25, 95; HORN, 1891, Trans. Amer. Ent. Soc., 18, 329-330; HORN, 1894, Proc. Cal. Acad. Sci., 4(2), 392; CHAMB., 1926, Cat. Buprestidae, 48; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst. U. S. Nat. Mus., 267-270.

This is another species local to the semiarid regions of our Southwest, northwestern Mexico and Lower California.

Type locality: Texas.

Recorded distribution: various places in Texas, New Mexico, Arizona, Nevada, Sonora, Mexico, and Lower California. The Indiana records have reference, no doubt, as indicated by Fisher, to another and closely related species. The Lower California citations are Corral de Piedra and Sierra El Taste (Horn, 1894).

New records: several specimens from the following places in Lower California. Mesquital, July 28, 1938; 15 miles N. of San Ignacio, June 24, 1938; 15 miles N. of Punta Prieta, July 29, 1938; Catavina, June 19, 1938; and Miraflores, July 10, 1938; all collected by Michelbacher and Ross.

(55) *Agrilus palmacollis* Horn

*Agrilus palmacollis* HORN, 189, Trans. Amer. Ent. Soc., 18, 326; CHAMB., 1926, Cat. Buprestidae, 76; FISHER, 1928, Rev. *Agrilus*, Bull. 145, Smith. Inst. U. S. Nat. Mus., 272-275.

This small and well characterized species is also a species of our Southwest. Only recently has it been collected in Lower California. It breeds in mesquite (*Prosopis juliflora*) and Hiusache (*Acacia farnesiana*) (Champion, 1926).

Type locality: western Texas.

Recorded distribution: various places in Texas, New Mexico, Arizona, and Yuma, California.

New records: nineteen specimens from 10 miles S. of Punta Prieta, June 21, 1938; Mesquital, July 28, 1938; 45 miles N. of San Ignacio, July 27, 1938;



and 15 miles N. of the same place, June 24, 1938; and 20 miles W. of Santa Rosalia, June 24, 1938; all collected by Michelbacher and Ross.

(56) ***Agrilus peninsularis*** Van Dyke, new species

Small, moderately stocky, bronze and shining. Head quite convex, with a narrow and feeble longitudinal impression on occiput, supraorbital grooves deep, obscurely scabrous, finely, sparsely punctured with a minute gray seta arising from each puncture; eyes large but only moderately convex and with inner margins straight and parallel; antennae extending about three segments beyond front margin of prothorax, with segments 5–11 serrate and almost as broad as long and bronze. Prothorax one half wider than long, evenly convex, sometimes narrowly longitudinally impressed at middle, apex prominently lobed in front and finely margined, sides almost straight and parallel to posterior third, thence oblique to obtuse hind angles which are without carinae; disk minutely alutaceous, finely obliquely rugose and obscurely scabrous, the punctures fine and sparse as on the head and with the same minute and short white setae; and the marginal and submarginal carinae only separated as far as the posterior fourth. Scutellum smooth and depressed in front and with a feeble transverse carina behind. Elytra over three times as long as broad, with broad, basal impressions but otherwise rather evenly convex, with surface minutely alutaceous, obscurely scabrous, with fine and sparse punctures, regularly disposed, and minute, short scalelike white setae arising from each as in front, without humeral carinae, with sides sinuate at middle and apices rounded and finely serrate. Beneath, finely, sparsely punctured and setose, the setae a bit longer than on dorsal surface and much inclined, the prosternal lobe broadly emarginate in front, the prosternal spine broad, but gradually narrowing posteriorly; the tarsal claws simply cleft with inner portion but little incurved. Length 4 mm., breadth 1 mm.

Males with bronzed heads and antennae; first ventral segment convex, not grooved but with a pair of feeble, blunt tubercles behind.

*Holotype*, male, *allotype*, female (Nos. 4843 and 4844, Mus. C.A.S. Ent.), from **Mesquital, Lower California**, July 28, 1938, collected by Michelbacher and Ross, and seventeen paratypes, six from same locality as above, five from 15 miles N. of San Ignacio, July 24, 1938, one from 7 miles S. of El Mármol, June 18, 1938, one from 20 miles N. of Comondu, July 23, 1938, two from 10 miles S. of Punta Prieta, June 21, 1938, one from 15 miles W. of La Paz, July 5, 1938, and one from Chapala Dry Lake, June 21, 1938. All of the above were collected by Michelbacher and Ross.

This species is of the same size, shape and general appearance as *palmacollis*, and with it possesses the same type of pronotal sculpturing though in a somewhat reduced degree. It, however, differs by not having condensed patches of pile upon either upper or lower surface; the prothorax with sides not evenly arcuate, without carinae at hind angles, and the marginal and submarginal carinae not separated throughout; the elytra evenly rounded at apex, not

subacute; and beneath with the lobe of prosternum rather deeply and broadly emarginate, and the pile short, sparse, and prostrate. Both sexes have the head and antennae bronzed and the males have the first ventral segment not sulcate, but with a pair of blunt posterior tubercles. According to characters, it is, thus, widely separated from *palmacollis*, and in Fisher's Key would run close to *muticus*, with which of course it is not at all related.

(57) ***Agrilus lucanus*** Fall

*Agrilus lucanus* FALL, 1906, Ent. News., 17, 167-168.

This species was described by Fall from a unique, collected by Beyer at El Taste, Lower California. It belongs near *cavatus* according to the describer.

(58) ***Mastogenius impressipennis*** Fall

*Mastogenius impressipennis* FALL, 1906, Ent. News., 17, 167.

The only species of the genus from Lower California was collected by Beyer at El Taste.

## EXPLANATION OF PLATES

### PLATE 6

- Fig. 1. *Acmaeodera lucana* Van Dyke, new species, 5.7 ×.  
Fig. 2. *Acmaeodera rubescens* Schaeffer, 2.84 ×.  
Fig. 3. *Acmaeodera stigmata* Horn, 5.7 ×.  
Fig. 4. *Acmaeoderoides insignis* (Horn), 5.7 ×.  
Fig. 5. *Acmaeodera opinabilis* Fall, 5.7 ×.  
Fig. 6. *Acmaeodera flavostieta* Horn, 5.7 ×.  
Fig. 7. *Acmaeodera varipilis* Van Dyke, 5.7 ×.  
Fig. 8. *Acmaeodera scapularis* Horn, 5.7 ×.  
Fig. 9. *Acmaeodera vanduzeei* Van Dyke, 5.7 ×.  
Fig. 10. *Acmaeodera clausa* Horn, 5.7 ×.

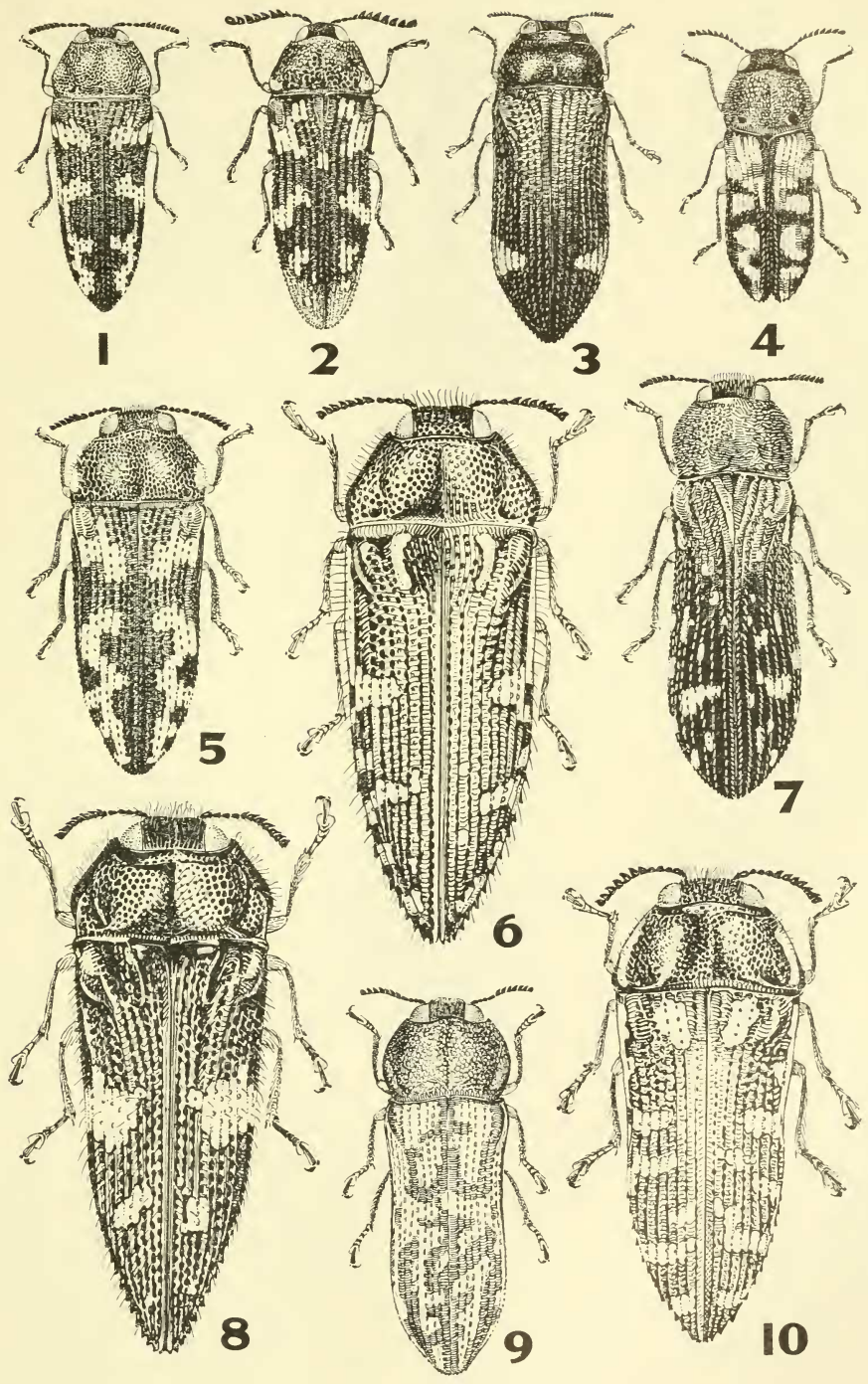


PLATE 7

Fig. 1. *Chrysobothris lucana* Horn, 5 ×.

Fig. 2. *Chrysobothris peninsularis* Schaeffer, 5 ×.

Fig. 3. *Chrysobothris purpeoplagiata* Schaeffer, 5 ×.

Fig. 4. *Chrysobothris rossi* Van Dyke, new species, 5 ×.

Fig. 5. *Chrysobothris thoracicus* Schaeffer, 5 ×.

Fig. 6. *Chrysobothris michelbacheri* Van Dyke, new species, 5 ×.

Fig. 7. *Chrysobothris beyeri* Schaeffer, 5 ×.

Fig. 8. *Chrysobothris martha* Van Dyke, new species, 5 ×.



